

Tegmen tympani defect treatment

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There are three surgical approaches for the repair via a [middle fossa approach](#) or [transmastoid approach](#) or a combined approach for [tegmen tympani defect](#). ^{1) 2) 3)}.

Results suggest no difference in clinical outcomes between combined intra-/extradural versus extradural-only repair of tegmen defects. A simplified extradural-only repair strategy can be effective, and may reduce the morbidity of intradural reconstruction (seizures, stroke, and intraparenchymal hemorrhage) ⁴⁾.

Middle cranial fossa surgery carries the risk of epilepsy while transmastoid repair can result in the loss of hearing.

Corrective surgery employs transmastoid exploration. After any existing meningoceles or meningoencephaloceles have been cauterized or amputated, small grafts of autogenous fascia or cartilage are used to plug defects found. The area is covered with temporalis fascia graft, reinforced by a pedicled muscle-fascia graft and, if needed to obliterate the mastoid cavity, a free graft of subcutaneous abdominal adipose tissue ⁵⁾.

The exposure does not need to extend medial to the [arcuate eminence](#) and requires less retraction of the temporal lobe.

Intraoperatively, the retained CSF within the subarachnoid space provided a protective cushion for the undersurface of the temporal lobe and allowed for the maintenance of fullness of the temporal lobe dura. The fullness of the temporal lobe was found to aid in tightly sealing the tegmen tympani defect. However, the option of lumbar CSF drainage may lessen the degree of temporal lobe retraction and is utilized very effectively in MCF approaches. Careful elevation of the dura from a posterior-to-anterior direction and complete avoidance of bipolar cautery on the MCF floor are essential to preserve [facial nerve](#) function ⁶⁾.

The [exoscope](#) allows adequate exposure of the MCF floor with identification and preservation of key anatomical structures. The exoscope represents a valuable alternative to the [microscope](#) in reconstruction of MCF defects, offering high-quality magnification and proven maneuverability ⁷⁾

1)

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Last update: **2024/06/07 02:54**

